

## WHAT IS CLAIMED IS:

1. A body of a vehicle for hauling material, the body made by the following process:

(a) determining the desired load distribution of weight on a chassis of the haulage vehicle;

(b) determining the desired volumetric capacity for the body;

(c) establishing a line for a floor, a line for a front wall of the body and an inside body width;

(d) developing a three dimensional model of the hauled material carried in the body using data collected from an anticipated point of use with the three dimensional model of the hauled material having a distribution of weight on the chassis;

(e) adjusting a set of design parameters of the body until the three dimensional model distribution of weight on the chassis is substantially similar to the desired distribution of weight on the chassis and the volumetric capacity of the body is substantially similar to the desired volumetric capacity; and

(f) producing the body in accordance with the set of design parameters.

2. The invention according to claim 1 wherein the set of design parameters of the body includes a position of the body floor and a position of body sidewalls.

3. The invention according to claim 2 wherein the position of the body floor includes a length of the floor.

4. The invention according to claim 2 wherein the position of the body sidewalls includes a height of the sidewalls.

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5. The invention according to claim 4 wherein the position of the body sidewalls further includes a distance between the respective sidewalls.

5 6. The invention according to claim 2 wherein the set of design parameters of the body further includes a position of the body front wall.

10 7. The invention according to claim 4 further including the step of adjusting the length of the body floor and the height of the body sidewalls to provide the lowest practical vertical location for the center of gravity of the three dimensional model of the hauled material.

15 8. The invention according to claim 1 wherein the data collected from the anticipated point of use includes angles of material repose of an actual load carried in an existing vehicle body.

20 9. The invention according to claim 8 wherein the angles of material repose include a front angle of material repose, a rear angle of material repose and side angles of the material repose.

25 10. The invention according to claim 9 wherein the field collected data further includes a representation of corner voids present in an actual load carried in an existing vehicle body.

30 11. The invention according to claim 10 wherein the field collected data includes angles of material repose of and representations of corner voids present in actual loads carried in a plurality of existing vehicle bodies.

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which allows an incremental change in the angles of material repose through the corners of the three dimensional model and extending the planes until they intersect the perimeter of the body.

18. The invention according to claim 1 wherein the step of developing the three dimensional model of the hauled material includes modeling the corner voids of the hauled material.

19. The invention according to claim 1 further including the step of adjusting the set of design parameters to provide the lowest practical vertical location for the center of gravity of the three dimensional model of the hauled material.

20. The invention according to claim 1 further including the step of adjusting the set of design parameters to allow material to be loaded into the dump body from the lowest practical vertical location.

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